



METHOD AND APPARATUS FOR DETERMINING BEHAVIORAL
PROFILE OF A COMPUTER USER

Background

a In traditional print media, the term "agate" was
5 originally used to refer to any information printed in
columns 1.5 inches wide in 5 point type (e.g., stock
quotes). Today, agate is used to refer to time-sensitive,
reference information that is not read linearly. Examples
are telephone listings, classified advertisements, weather
10 reports, sports scores and statistics, market data, books
and recordings in print, and television and film listings.

Some types of agate require continual updating in the
short term like stock quotes, while other types have a
longer life, like travel information and business
15 directories. The newspaper industry is one of the primary
suppliers of agate. Newspapers provide listings of stock
quotes, television and radio programming, film schedules,
and classified ads. A second group of agate suppliers are
book publishers. From travel guides to books in print, a
20 wide variety of books provide agate information that
changes monthly or yearly.

Although many types of agate are traditionally found
in publications (e.g., newspapers, magazines, and books),
all agate can be placed into large indexed databases.
25 Because agate is non-linear reference material, it is often
more efficient to search for agate in a database, than to
scan columns of a newspaper.

One of the largest pools of databases and electronic
media is found on The Internet. The World Wide Web (Web)
30 is a two-year-old protocol used to create and publish

documents on the Internet. Web documents may contain graphics, text, sound, video or any combination of these. Web documents can include "hyperlinks" which are highlighted areas of information in one document that, when user-selected, open a related document. In late 1994, "forms" were added to the Web to make it interactive. Previously, Web pages could only be used to display information or point to other Web sites where information was available. The 1994 change allowed those publishing Web pages to publish "forms", i.e., documents that include blank spaces to be completed by users and then returned to the publishing computer, thus allowing interactivity.

Publishing information on the Web requires two software components. Electronic publishers must run HyperText Transfer Protocol (HTTP) server software. Users scanning or searching on the Internet must use Web browser software. A variety of firms including Microsoft, Oracle, Netscape Communications, Spyglass, Spry, Netcom, and EInet all distribute Web software.

A variety of businesses are now offering information, some of it agate, on the Internet. One example is newspaper distribution on the Internet. However, the agate found in newspapers is at least twelve hours old. In the case of stock quotes, the information found usually recaps trading for the previous day, listing the high, low and closing prices as well as the number of shares traded. While this information is sufficient for tracking investments, investors often require real-time information to trade on the market.

Other examples of businesses that offer agate information on the Internet are Movie Phone whose World Wide Web Site is WWW.777film.com and Securities APL (at WWW.secapl.com) which allows users to look up individual stock quotes (delayed 15 minutes).

To date, however, there is no general agate provider on the Web.

Summary of the Invention

The present invention uses agate information to
5 determine the profile of a computer user, and in particular
the behavioral or psychographic profile, as distinguished
from the demographic profile, of a user. To accomplish
this, the present invention provides (i) a data assembly
for displaying customized agate information to a computer
10 user, and (ii) a tracking and profiling member for
recording user activity with respect to agate information
displayed through the data assembly. Over time, the
tracking and profiling member holds a history and/or
pattern of user activity which in turn is interpreted as a
15 user's habits and/or preferences. To that end, a
psychographic profile is inferred from the recorded
activities in the tracking and profiling member.

a ¶ Further, the tracking and profiling member records
presentation (format) preferences of the users based on
20 user viewing activity. Preferences with respect to color
schemes, text size, shapes, and the like are recorded as
part of the psychographic profile of a user. In turn, the
psychographic profile enables the data assembly to customize
a presentation (format) of agate information, per user, for
25 display to the user.

In the preferred embodiment, the data assembly
displays agate information and/or advertisements (combined
in a common screen view or separately in respective screen
views). The advertisements (stored in an advertisement
a 30 module for example) are displayed to users in accordance
with the psychographic profile of the user.

a The tracking and profiling member also records
demographics of each user. As a result, the data assembly
is able to transmit advertisements for display to users

based on psychographic and demographic profiles of the user to provide targeted marketing.

In accordance with another aspect of the present invention, there is a module (e.g., advertisement module)

that records history of users viewing the advertisements.

(i) number of times viewed by a user; (ii) number of ~~frames~~ ^{times} selected for further information by a user, and/or (iii)

number of purchases initiated from display of ~~the~~ ^a advertisement to ~~a~~ ^a user.

In addition, a subroutine coupled to the module

performs a regression analysis on the recorded history of users viewing the ads. The subroutine ~~refines~~ ^{refines} profiles of target users based on the regression analysis. Preferably,

the regression analysis ~~weights~~ ^{weights} the relative importance of psychographic and/or demographic characteristics of users.

As such, ~~over time~~ ^{over time}, the advertisements become better targeted to users having an interest in said information (content and presentation/format of ad), and hence the invention method and apparatus provides automatic targeting of audiences (target users) and self-tailoring of target profiles.

The preferred embodiment utilizes object oriented programming techniques to provide a ~~user object~~ ^{User Object}. The ~~user~~ ^{User} object tracks user actions in a history profiling table.

The ~~user object~~ ^{User Object} utilizes an updating routine which maintains the history profiling table by storing in the table an indication of a user's actions, i.e., computer activities, with respect to displayed agate information.

In accordance with another aspect of the present invention, there are ~~agate objects~~ ^{Agate Objects} for providing the agate information and a ~~sponsor object~~ ^{Sponsor Object}. In a preferred embodiment, the agate information includes stock

information, advertisements, sports statistics, weather reports and the like. With regard to stock information, an ~~agate object~~ ^{Agate Object} routine receives stock data on line, parses

a the data and makes a value-added calculation. As a result,
the stock information is made searchable by variables such

a as price-earnings ratio, and the like.

a The ^{Sponsor Object}~~Sponsor object~~ categorizes advertisement or other

5 sponsor provided information according to content and
presentation, including colors used, size, shape, and
whether audio and/or video components are involved. An
advertiser profile building routine automates the process

a of identifying colors, size, shape, and whether video and/or
10 audio are involved.

a Also the ^{Sponsor}~~Sponsor~~ and ^{User Objects}~~user objects~~ track how many times
each piece of advertisement information is shown to,

a is selected by and/or spawns a purchase by users. In other

a words, the ^{Sponsor}~~Sponsor~~ and ^{User Objects}~~user objects~~ track performance of

15 sponsor provided information, especially advertisements.

In the preferred embodiment, a performance routine employs
regression techniques to provide performance reports. The
performance routine may also be run (executed) remotely by
suppliers of the advertisement information.

20 Brief Description of the Drawings

The foregoing and other objects, features and
advantages of the invention will be apparent from the
following more particular description of preferred
embodiments and the drawings in which like reference
25 characters refer to the same parts throughout the different
views. The drawings are not necessarily to scale, emphasis
instead being placed upon illustrating the principles of
the invention.

Figure 1 is an overview of a computer network
30 environment in which the present invention is employed.

Figure 2 is an overview of a general embodiment of the
present invention.

Figures 3a-3g, 4a and 4b, and 5a-5d are schematic diagrams of a preferred embodiment.

Detailed Description of the Preferred Embodiment

Illustrated in Figure 1 is a plurality of networks
5 19a, 19b, 19c. Each network 19 includes a multiplicity of
digital processors 11, 13, 15, 17 (e.g., PC's, mini
a ~~computer~~ ^{computers} and the like) loosely coupled to a host processor
or server 21a, 21b, 21c for communication among the
processors within that network 19. Also included in each
10 network 19 are printers, facsimiles and the like. In turn,
each host processor 21 is coupled to a communication line
23 which interconnects or links the networks 19a, 19b, 19c
to each other to form an internet. That is, each of the
networks 19 are themselves loosely coupled along a
15 communication line 23 to enable access from a digital
processor 11, 13, 15, 17 of one network 19 to a digital
processor 11, 13, 15, 17 of another network 19. In the
preferred embodiment, the loose coupling of networks 19 is
the Internet.

20 Also linked to communication line 23 are various
a servers 25a, 25b which provide to end users ^{access to} ~~with data~~
a ~~across~~ the Internet (i.e., access to potentially all other
networks 19, and hence processors 11, 13, 15, 17 connected
to the Internet). The present invention is a software
Q 25 program 31 operated ^{on} and connected through a server 27 to
the Internet for communication among the various networks
a 19 and/or processors 11, 13, 15, 17 and other end users
connected through respective servers 25. In the preferred
a embodiment, the server 27 ^{is a} ~~or~~ Digital Equipment Corp. Alpha
30 server cluster (e.g., 2400-8000 Series), or a multiplicity
of similar such servers. Server 27 runs Oracle 2.0
Webserver as HyperText Transfer Protocol (HTTP) server
software to support operation of present invention program
31.

Upon an end user logging onto program 31 through common Internet protocol, program 31 generates an initial screen view (commonly known as the "Home Page") for display to the end user. During the user's first visit, the
5 initial screen view provides menu selections of various agate information (e.g., stock market data, weather, sports, etc.) Upon user selection (using a click of a mouse or other input means) of a menu item, program 31
A displays corresponding up-to-date information. Similarly,
10 each time the user selects another menu item, program 31 generates and displays current agate information relating to that selection.

In addition, program 31 records the user's selections and his viewing activity with respect to the agate
15 information. In particular, for each piece of displayed agate information, program 31 records the date and time of user viewing and the format ~~in~~ which the user has selected
A for viewing. After multiple sessions, a pattern of the user's viewing actions or viewing habits is obtained, from
20 the recorded activity. In turn, certain inferences about the user are made based on the user's viewing habits and the specific pieces of agate information he views, including content and presentation of that information. To that end, for each user the present invention program 31
25 creates a user profile from the agate information viewing habits of the user. The system then generates a custom Home Page, including a user's preferred (content and presentation) agate information. On subsequent visits to program 31 (as a Website) by the user, program 31 displays
30 the customized Home Page for that user instead of the initial Home Page.

Based on the created user profile for a given user, program 31 enables sponsors to better direct their advertisements and enables advertisements to be tailored to
A 35 target ^{users'} ~~user's~~ display preferences. That is, both subject

matter/content and presentation of advertisements are able to be customized to the end user's preferences due to the information tracked and recorded (i.e., the created user profile) by program 31.

5 Accordingly, program 31 in its most general form has an agate data assembly 71, a user profiling member 73, an advertisement module 75 and a program controller 79 as illustrated in Figure 2. The agate data assembly 71 stores the various agate information for user viewing. The user
10 profiling member 73 records information regarding each user, including a user's identification, categories of interest and the user's display preferences of each category. Advertisement module 75 holds sponsor information and their advertisements, with a target
15 audience profile indicated for each advertisement.

Program controller 79 is a series of routines
Q (methods) residing on ^{Web Server}~~Webserver~~ 27.

The program controller 79 responds to commands (e.g., log in and menu selections) transmitted over the Internet
20 by an end user, and obtains the necessary information from agate data assembly 71, user profiling member 73 and advertisement module 75 to generate and display appropriate screen views to the user.

Q In particular, in response to user ^{login, program}~~log-in~~, controller
25 79 checks with the user profiling member 73 to determine whether the user has in the past logged on to program 31 or is a new user. In the former case, according to records in the user profiling member 73, the program controller 79 obtains preference information for that user and using
30 agate information from the agate data assembly 71 generates an initial screen view formatted according to the user's recorded preferences. Program controller 79 transmits the generated screen view through Web server 27 for display to the user.

In the latter case (a first time/new user), program controller 79 assigns a unique users computer ID upon user login. This, in turn, enables user profiling member 73 to initialize tracking of viewing activity of the new user
5 immediately following login. Program controller 79 obtains initial agate information from agate data assembly 71 to display the Home Page to the new user. Program controller 79 also obtains user identification information from the user to assign a user name and password at the user's
10 convenience.

In either case, throughout the session, program controller 79 responds to user selections and viewing actions (screen formatting commands/requests, menu selections, etc.) by (i) using the agate data assembly 71
15 to obtain and display the requested information and (ii) using the user profiling member 73 to record the user's activities and thus build a psychographic/behavioral profile of the user.

With respect to the advertisement module 75, program
20 controller 79 obtains sponsor submitted advertisements from module 75 and generates a screen view formatted according to user preferences as determined from the psychographic profile in the user profiling member 73. That is, program controller 79 enables display of advertisements customized
25 to the user, as to content and presentation (i.e., colors used, orientation on the screen, audio/video components, and the like). Program controller 79 obtains the content from the advertisement module 75 and the presentation details for the subject user from the user profiling member
30 73.

In addition, for each advertisement, advertisement module 75 (and/or user profiling member 73) records (a) the number of times and/or number of users to whom the advertisement has been displayed, (b) the number of
35 times/users who have requested more information (via a

click of a mouse on a corresponding menu selection) regarding the advertisement, and when possible (c) the number of purchases obtained through program 31's display of the advertisement. As such, advertisement module 75 holds performance data for each advertisement, and hence enables program controller 79 to provide performance reports to sponsors who log on to program 31. Various regression techniques and the like are used in the performance reports in a manner consistent with the state of the art.

In the preferred embodiment, program 31 is implemented as an object oriented program discussed next with reference to Figures 3a through 5b. Each object is formed of data and subroutines (methods) for acting on the data. The data is preferably stored in tables and each table is formed of a multiplicity of records or fields of information. The information held in a record in respective tables of the objects is illustrated in Figures 3b through 5b and discussed below with the details of each object. It is understood however that other program means, techniques, data structures and program designs for present invention system 31 are suitable. Thus the details of the preferred embodiment in Figures 3a through 5b are for purposes of illustration and not limitation.

In Figure 3a, a set of User ^{Objects} ~~objects~~ 37 provides the functional equivalent of the user profiling member 73 of Figure 2. A set of Page Display ^{Objects} ~~objects~~ 35 provides the functional equivalent of a gate data assembly 71 of Figure 2. A set of Sponsor ^{Objects} ~~objects~~ 33 provides the functional equivalent of the advertisement module 75 of Figure 2. The main routine 39 of program 31 in Figure 3a functions similarly to the program controller 79 of Figure 2 as will become apparent in the following discussion.

Turning to Figure 3a, the purpose of the set of User ^{Objects} ~~objects~~ 37 is to identify users and maintain a user profile

a for each user. Included in the set of ^{Objects} ~~User objects~~ 37 is general information about users and their computers, as well as specific data on each computer session undertaken by the users. In particular, for each set there is a ^{User} ~~User~~ ^{Object} ~~Object~~ 37a, ^{Object} ~~Object~~ 37a identifies a respective user by nickname (user chosen), password (user chosen), and optionally ^E ~~e~~-mail address, postal address, telephone number, and credit card number, and the like. ^{Object} ~~User object~~ 37a also provides language, geographic, demographic and lifestyle information about the user. To accomplish this, ^{Object} ~~User object~~ 37a stores a separate record for each of the above mentioned information, the collection of records forming the table or data of User object 37a. Fig. 3b illustrates the fields or records of information employed by ^{Object} ~~User object~~ 37a in the preferred embodiment.

a Also for each user, there is a ^{Object} ~~User Computer object~~ 37b and a ^{Object} ~~User Interface object~~ 37c. For each ^{user's} ~~user~~ computer, ^{Object} ~~User Computer object~~ 37b provides an indication of the limitations and capabilities of the user's computer system. For example, ^{Object} ~~User Computer object~~ 37b lists whether the user's system provides audio and/or video display, and what Web browser software is utilized by the user's system. An outline of the table/data set of a ^{Object} ~~User Computer object~~ 37b in the preferred embodiment is illustrated in Fig. 3c.

a The ^{Object} ~~User Interface object~~ 37c provides a unique (preferably numeric) identifier of the user. The ^{Object} ~~User Interface object~~ 37c also provides indications of categories of interest to the user and a primary screen display for each category customized to that user. The foregoing information is held in records illustrated in Fig. 3d. In the preferred embodiment, the various categories of interest include stock trading portfolio, sports, news, weather, theater and television schedules, telephone directory, travel data, classified ads and

personals information, and the like. Display preferences include orientation, color scheme, screen quadrant/location and the like, indicated with respect to the category of information. For example, one user may tend to like stock information displayed in tabular form on a blue background and weather displayed on a map scene. Another user may prefer stock information displayed in a running 1-line quote at the bottom of the screen and weather displayed in a tabular format by city on a green background, and so forth.

The history of user activity with executed program 31 is also maintained by the set of User Objects 37 (Fig. 3a). Specifically for each user, a User Session Object 37d, User Action History Object 37e and User Viewing History Object 37f record the following as illustrated in Figs. 3e-3g.

Each time a user logs on to program 31, User Session Object 37d records the starting date and time and ending date and time of the session. User Session Object 37d also records (a) the referring link from which the user accessed program 31 (e.g., a so called "bookmark" or "hyperlink" which effectively stores and forwards the website address of program 31), (b) the user's identification number (e.g., as stored in a so called "cookie" passed by the user's computer upon logging in), and (c) an indication of web browser software employed by the user's computer. Fig. 3e illustrates the records created by User Session Object 37d to accommodate the foregoing data.

The User Action History Object 37e stores each click of a mouse and corresponding cursor position to effectively record the user's motions/movements in a session. In particular, as illustrated in Fig. 3f, User Action History Object 37e records (a) date and time of action, (b) session identifier (indicating in which session of the user session Object 37d the subject action occurred), (c) sequence or order number of the action in the series of actions that

occurred in a common session, (d) identification of screen view displayed at time action occurred, (e) identification of item selected by user (via click of mouse with cursor positioned on item), and (f) screen position of selected item (e.g., first, second or third menu item, right or left side).

Q The User Viewing History ^{Object} ~~Object~~ 37f stores information indicative of the screen views displayed to the user in a session. Specifically, User Viewing History Object 37f records an item identification (either agate or advertisement) and orientation of that item for each item displayed to (and hence viewed by) the user in a session. Orientation is noted relative to a page/screen view or an ^{User} ~~Object~~ identified in the "related object ID" field of the ^{User} ~~Object~~ Viewing History Object ~~37f~~. Preferably, orientation is indicated as being top, bottom, left, right or background of the screen view. The Viewing History Object 37f also records an identifier (of each screen view), ordinal sequence number (number order of screen view within series of screen views displayed in a session), and an indication of the action from which this screen view resulted (i.e., a reference to a corresponding User Action History Object 37e). Lastly, the User Viewing History Object 37f records date and time of screen opening and closing for each screen view. The foregoing is stored in an object table record illustrated in Fig. 3g.

Returning to Fig. 3a, the set of Page Display Objects 35a-35c ^{defines} ~~define~~ the screen views transmitted and displayed to end users. A Page ^{Object} ~~Object~~ 35a cross references a ^{User} ~~User~~ ^{Interface Object} ~~Interface Object~~ 37c which specifies which Page Display Object 35c and which agate information (content and presentation) is appropriate for the current user. Page Data Objects 35b hold the agate or other data to be displayed to end users. Included are advertisements (objects themselves) which may be integrated into the agate

data. Preferably advertisements are positioned along the periphery (i.e., above, below, left or right) of the agate data, as defined by a respective Page Display ^{Object 35c} ~~Object~~.
Accordingly, Page Data Objects 35b support Page Display
5 Objects 35c which outline the possible screen content and presentation formats in which agate data advertisements are to be displayed.

In the preferred embodiment, Page Display Object 35c provides outlines for a Home Page, Financial Pages (screen
10 ^{Pages} ~~views~~), Sports ^{Page} (screen views), Weather Pages (views), a Media Schedule Page, Directory Page, Travel Options Page,
^{Pages} ~~A~~ Classified Ads ^{Page}, and Real Estate Pages (screen views)
as specified in Appendix I. Each is discussed next with reference to Figs. 4a-4b and Appendix I.

15 Referring to Fig. 4a, Page Display Object 35c defines a Home Page 43 format for program 31. The preferred Home Page format includes six categories of agate information-stock data, sports, weather, travel schedules, directory information and Classified/Personals/Real Estate messages.
20 The stock data category provides portfolio information such as opening price per ^{Share,} ~~share~~ change in price from last posting, 52 week highs and lows, etc. If a user selects the stock data category (i.e., as a menu selection) for further viewing, a Page Display Object 35c in the form of a
25 Financial Page (screen view) is generated in one of the alternative formats outlined in Appendix I.

^{Objects} ~~a~~ Briefly, five types of Financial Pages ^{Objects} ~~Objects~~ 35c are utilized by the preferred embodiment. They are named "Stock Page", "Company Page", "Expert Articles Page",
30 "Expert Guide Page" and "Show Me Some Page" (see Appendix I). The "Stock Page" includes (a) data on user-selected stocks in a tabular format, a portfolio value graph and message window (for quickly moving companies present and
^{titles} ~~a~~ ~~titles~~ of articles by experts in the field), (b) a tracking
35 list, (c) indices such as Dow Jones Industrial Average and

NASDAQ, and (d) a ticker customized to the user (user-
A selected stock). The expert articles are formatted on-a
screen views for display according to the "Expert Articles
A Page" format. The "Company Page" format includes the
5 trading symbol/code, stock information and corporate data
about a specific company. The "Expert Guide Page" and
"Show Me Some Page" formats enable the user to
interactively create his own screen display of stock
A information. In particular, the Expert ^{Guide} ~~guide~~ Page surveys
10 the user on his investment interests. Using the Expert
A Guide Page and Show Me Some Page formats, ^{Page Display} ~~Object~~ 35c then
displays names of companies found to match the user
provided criteria.

In each of the foregoing formats, the preferred
15 embodiment includes incorporation of ads or sponsorship
indications as top and/or closing banners. The Home Page
43 (Fig. 4a) provides scores of recent games and news in
A the "sports" category. If a user selects the sports ~~from~~
A ~~the~~ category from the Home Page, a Page Display Object 35c
20 generates various screens bearing sports information and
news. For sports pages/screen views, there are seven
page/screen formats of Page Display Object 35c outlined in
Appendix I. Briefly, a "General Sports Page" format
includes (a) game scores and standings, by league, for
25 professional and collegiate sports, and (b) player
standings (professional and collegiate) for baseball,
football, hockey and basketball. Statistics are updated
A and displayed during play of a game, so that the ^{General} ~~general~~
A ^{Sports Page} ~~sports~~ page provides game-in-progress statistics in real-
30 time. Also a news window is provided for each sport with a
link to a "News Page" (object) for more news. The "News
Page" format includes information regarding major trades,
signings and injuries. In the preferred embodiment, a
scrolling window of latest news is also included.

A "Team Page" format provides a roster of a given team. Thus program 31 has several Team Page Display Objects 35c. The roster lists players by name, jersey number, position and some statistics. A "Team v. Team
5 Page" format lists similar information as the "Team Page" format but for two teams in facing columns. Indications of favored teams and game scores for an entire season are also
A provided on a "Team v. Team Page" ^{Display} Object 35c.

Player information is provided in three formats--a
10 "Player Page" format, a "Player v. Team Page" format and "Player v. Player Page" format. Comparison of a player's statistics to his team's statistics is provided in a
A "Player v. Team Page" ^{Display} Object 35c. Comparison statistics of two players on different teams is provided in the "Player
15 v. Player Page" format.

A Further, some of the above sports page formats allow advertisements to be displayed at the top and/or bottom of the screen view in the preferred embodiment.

A Referring back to Fig 4a, the Home Page ⁴³ also provides
20 A a weather category. Shown on the Home Page ⁴³ under that
A category is a long ⁴³ range (e.g., 5-day) forecast for the user's local area and cities of interest to the user. Also that category provides storm warnings and the like for local areas and cities of interest. Upon user selection of
25 the weather category, a Weather Page Display Object 35c enables display of weather information in one of two
A formats--a National Weather Page and a ^{Regional} ~~Region~~ Weather Page
(Appendix I). Briefly, the "National Weather Page" format displays temperature and precipitation indications across a
30 relevant map, along with textual descriptions. Audio forecast readings are also provided. Incorporation of a sponsorship ad is provided at the top and/or bottom of the screen view (termed "banners" in Appendix I). The
"Regional Weather Page" displays (a) a regional map (e.g.,
35 state) with temperature and precipitation indications, (b)

a graphical forecast (e.g., high and low temperatures and sun/cloudy, rain or snow predictions for the next several days), and (c) a detailed forecast with tabular and textual descriptions. Also the Regional Weather Page provides
5 weather warnings and advertisements at the bottom of the screen view in the preferred embodiment.

A Referring back to the Home Page⁴³ of Fig. 4a, also included is a Travel Category. Data/information displayed in that category include travel and other ticket purchases
10 of a user within an approaching date and specials

A advertised in areas of interest to ^{the} a user. Upon user

A selection of the Travel^{Schedule} Category of the Home Page⁴³, a Travel Page Display Object 35c enables display of a Travel Options Page (screen view).

15 The format of a "Travel Options Page" of the preferred embodiment is detailed in Appendix I. Preferably, there is one Travel Options Page for each of different cities.

A Briefly, for each Travel Options Page^{Display 35c} Object⁴³ there are three data parts. A first part is a table of
20 transportation options, including departure, arrival and reservation information for airlines, buses, boats and trains. The second part is hotel information in a given destination (subject city). Preferably this information is in tabular form. The third data part of a Travel Options

25 A Page^{Display 35c} Object⁴³ is information regarding rental car options.

Further the Travel Options Page format allows an advertisement to be displayed at the top of the screen view and at the end of a Travel Options Page.

A Referring back to Home Page⁴³ Fig. 4a, the Directory
30 category provides phone numbers typically called by a user. The supporting Directory Page format for this category is a table of names and corresponding mailing addresses (i.e., street, city, state, zip code), telephone and facsimile numbers, E-mail address and URL (universal resource
35 A locator). Preferably for those names^{with} within an E-mail

address, the indicated name functions as a screen menu-selection using hyperlink techniques.

A The "Messages" category of the Home Page⁴³ includes information relating to personals advertisements, classified advertisements and real estate advertisements. Upon user selection of this category, a search is initiated with user provided parameters. An appropriate Page Display Object 35c enables display of the results of the search using a "Personals Page", "Classifieds Page" and/or "Real Estate Page" format outlined in Appendix I. Briefly, included in a Personals Page/screen view is geographic, demographic and life style information. Preferably, sponsor provided advertisements are able to be inserted at the top of the screen view and at the end (i.e., after) a Personals Page screen view.

The format of a "Classifieds Page" includes accommodations of sponsor provided advertisements (e.g.,^{at} as a beginning screen view and/or end screen view of the Classifieds Page screen view). The "Classified Page" format also includes indications of the requested item, make/model/year, price and a description of the subject item.

Each Real Estate Page follows one of three formats--a "Citywide Listings Page", "Selected Listings Page" and "Individual Listings Page" detailed in Appendix I. Briefly, the "Citywide Listings Page" format provides a table of real estate properties indicating address, price, square footage, etc. Also provided is beginning screen view and end screen view advertisement ability. The "Selected Listings Page" format provides a table of user selected properties/listings, with more details than the "Citywide Listings Page" format. For example, number of rooms, heat type, parking, yard/deck and the like are indicated in the table. Advertisement ability across the top and bottom of the screen view is^{also indicated} enabled by the

"Selected Listings Page" format. The "Individual Listings
A Page" format includes the ^{details} ~~detail~~ of the "Selected Listings
Page" with added textual description, photo, city
information and contact information. Advertisements at the
5 beginning and end of the page/screen view are enabled by
the "Individual Listings Page" format.

In the preferred embodiment, there is also a Media
A Schedule, ^{Object} ~~object~~ and respective screen view, accessible
through the Home Page 43 of Fig. 4a. The format of the
10 A Media Schedule Page, ^{includes} ~~include~~ three tables of information--
one table for television listings, one for film listings
and one for live performance listings as illustrated in
Appendix I. The television table lists for each program
A (show); ^{times} ~~time~~ the channel airing the program, start and end
15 and other related information (e.g., rating, rerun, etc.)
For each film, the film table lists, among other
information, cinema where playing, show times, length in
time, rating and indication of type of film. The live
performance table includes symphony and theater performance
20 schedules (show times) and place/theater.

In the preferred embodiment, program 31 displays user
generated messages and system generated notices (or
warnings) to the end user in addition to the foregoing
"Pages"/screen views of category information. Fig. 4b
25 A illustrates the preferred ^{Message Notice Object} ~~message/notice object~~ 45 screen
view format. In the case of one user sending a message to
another user through program 31, the displayed message
includes indications of the sending and intended receiving
A users along with an identifier, subject and message, among
30 other indicia. Attachments or additional information are
enabled through a page reference (Page ID) and/or link
indication. If the recipient selects (by a click of a
mouse) the page reference or ^{Page} ~~link~~ indication, program 31
A generates a screen view (i.e., ^{Page} ~~Display page~~ Object 35c)
35 displaying the additional information. Further messages

are transmitted through E-mail or internally/local to program 31.

In the case of notices and warnings, program 31 initiates and transmits these. An intended receiver,
5 notice/warning identifier, message, page ID and/or
Q additional information link^{are} ~~is~~ included, similar to ~~that~~ ^{those}
Q described above for user-to-user messages, among other indicia as illustrated in Fig. 4b. Program 31 transmits notices and warnings both internally during execution/
10 operation of program 31 and through E-mail.

In either case (user generated message or system notice/warning), advertisements are allowed to be integrated. To accomplish this, the "Message/Notice Page"
Q format⁴⁵ indicates an advertisement package ID (explained
15 below).

In addition to the features of the Home Page 43 illustrated in Figs. 4a and 4b and discussed above, the preferred embodiment provides user customization in the following ways. When a user is traveling away from the
20 computers that he normally logs on through (i.e., home and/or office), program 31 enables the user to customize
Q the initial screen view (i.e., Home Page⁴³). This is accomplished using the City Pages Objects outlined in Appendix II. In particular, an initial City Page screen
25 view provides user access to travel options, media/cultural event schedules, Corporation Information, Weather and Directory information, all with respect to a specific city
Q (e.g., destination cities in a business trip). To that end, from the City Page screen view, a Travel Options Page and
30 corresponding object (from Appendix I) may be generated for the user's current town location and/or home town. Also,
Q the City^{Page} ~~Page~~ is an object (like Media Schedule^{Page} Object in Appendix I) having a table listing media and cultural events, locations/channels of the same, and begin and
35 ending dates and times, among other brief information.

a From the ^{City Page}~~city page~~, as with the Home Page⁴³, a user is also able to obtain information on specific local companies utilizing Financial^{Page} Objects (Appendix I). Preferably a Company Page Object is utilized. Thus, corporate

5 information is presented in a table listing company name, and indications of industry, revenues and contact information (street address, telephone/facsimile numbers and E-mail address).

Information about the local weather as accessed from

10 the City Page is preferably presented in a graphical five-day forecast format, similar to that described for the Regional Weather Page Object in Appendix I. Lastly, the City Page provides a Directory of numbers in the subject city which the user has previously accessed and hence are

15 probably meaningful/useful to the user while staying in that city. Each entry in the Directory includes a name, address, telephone/facsimile number, and E-mail. Also in

a the preferred embodiment, indications^{of} in changes of address are provided in the Directory.

20 In addition, program 31 enables user customization of content and format of screen views for each category of information. That is, for each of the Home Page⁴³ and City Page categories (financial information, sports, weather, travel, telephone directory, personals and classifieds),

25 the user is able to request structured data, preformatted data packages and/or value-added analyses from program 31. Thus if a user provides certain data and an indication of desired form of analyses (ranging from a numeric indication to a simple yes/no indication), program 31 provides

30 prepared analytical views for the user selected data in the subject category. Alternatively, program 31 provides prepared profiles to assist users in selecting data. In response to a user providing a simple analytical statement/request, program 31 responds with data that fits

35 that request. For example, if the user requests college

a stocks, program 31 suggests ^{some} ~~some~~. Also direct user selection of category items and display format is enabled through this feature.

a With respect to each of the Home Page ^{43 City} ~~and City~~ Pages categories, the foregoing user customizations are further described in Appendix III.

Lastly, program 31 enables user customization of Home Page 43. To that end, upon a user logging in (subsequent to a first time) to program 31, one category at a time is addressed to define a default. In subsequent uses of program 31, data appears in order of most frequently selected categories of the user, unless the user specifies otherwise. Also, categories that a user selects to view further which are not on his Home Page are added with three options: customize, remove from first page, or move to a user-specified xyz position. Also program 31 defaults to the current date information only, unless otherwise designated by the user.

a Referring back to Fig. 3a, a set of ^{Sponsor Objects} ~~sponsor objects~~ 33 stores sponsor provided information, including advertisements desired to be displayed and details regarding the same. Figs. 5a-5d illustrate the set of ^{Sponsor Objects} ~~sponsor objects~~ 33, referred to as ^{Sponsor Object} ~~sponsor object~~ 33a, ^{Ad} ~~ad~~ package objects 33b, ^{Ad Series Objects} ~~series objects~~ 33c, and ^{Ad Objects} ~~ad objects~~ 33d in the preferred embodiment and detailed next.

a For each sponsor (or advertiser), a corresponding ^{Sponsor Object} ~~sponsor object~~ 33a (Fig. 5a) stores in a table (or sponsor directory) the company name, numeric identification unique to that sponsor, user contact information and program 31 administrator contact information. Also ^{Sponsor Object} ~~sponsor object~~ 33a records an indication of ^{the} ~~demographic~~ profile of the sponsor company itself in order to advertise to the sponsor company user as is appropriate. Further, sponsor object 33a indicates standardized report configurations (display preferences, etc.) for that sponsor.

Each sponsor has one or more ad packages maintained by respective ad package objects 33b of the sponsor. In each ad package object 33b (Fig. 5b) there is indicated sponsor ID, start and end date and time, and pricing of the ad packages. The pricing may be dependent on the number of times the ad is viewed by users (i.e., a "hit"), number of times a user selects to view more information from the ad (i.e., a "click through") and the number of times an actual order is generated. Pricing by the number of hits and number of click through by exact numbers or maximum numbers as indicated in the ad package object 33b. Thus ad package objects 33b serve as billing entities for the program 31 administrator. Also ad package object 33b records the number of hits and click through as tracked/monitored during user operation of program 31.

Specific to desired ads, each sponsor has one or more ad series objects 33c (Fig. 5c). An ad series object 33c (Fig. 5c) provides an indication of whether a given advertisement is singly or serially displayed, the category of the information and the demographic group pre-requested by the sponsor to be shown that advertisement. Also ad series object 33c includes a reference to an ad package object 33b (via an ad package identification), the hour of the day in which the ad/ad series is to start and end, the days of the week on which the ad/ad series is to be displayed, and the beginning and ending date and time of the ad/ad series. Also for serially displayed advertisements, ad series object 33c indicates the maximum number of views in a series to be displayed per user and per user per day.

Each ad forms a corresponding ad object 33d as illustrated in Fig. 5d. For a given advertisement, ad object 33d indicates to which series the advertisement belongs. To effectuate this, the ad object 33d indicates a series ID which references an ad series object 33c, and

indicates a series sequence (i.e., the ordering of the ads in a series). Ad object 33d also provides references to graphic, sound and multimedia portions of an advertisement. A text-only format of an advertisement is used for users
5 receiving messages on their own E-mail service or on a text-only Browser (e.g., links systems for VAX/VMS operating systems) rather than through the messaging feature of program 31.

Another part of the sponsor objects 33a-d is a
10 computer subroutine 41 (Fig. 3a) which provides performance reporting. This enables the sponsors of the advertisements to obtain reports on successful use of the advertisements. The types of reports provided in the preferred embodiment of program 31 are outlined in Appendix IV. In that
15 Appendix, "HTs" means hits and "CTs" mean click through.

Briefly, an Overview Report provides a review by ad package. The number of hits and number of click through purchased and achieved are indicated among the cost of the package and date specified by the ad package.

20 A Detailed Package Report provides information on individual ad packages, including showing the ads included in the package with video and audio portions intact. The demographic profiling requested and demographic breakdown of success with respect to a control group is also provided
25 in the Detailed Package Report. Also the number of hits and click through purchased and achieved are designated in the Detailed Package Report.

In the Demographic Response Rates Report, all ad packages of a sponsor or selected ones are compared. In
30 particular, the ad success by the sponsor targeted demographic groups is compared. Further the reporting subroutine 41 of program 31 calculates a regression on the targeted demographic groups for the ads, and the results of the regression calculation are used to suggest other

demographic characteristics that are important factors in the click through and/or number of purchases.

A Psychographic Profiling Report is similar to the Demographic Response Report except a psychographic profile is used instead of a demographic profile. The reporting subroutine 41 makes regression calculations, and results of the calculations enables program 31 to suggest other psychographic characteristics that are important factors in the click through and/or purchases of the ads for a given sponsor.

Other report formats include a U.S. or world mapping to show user density of program 31 versus a sponsor's click through or purchase density. Traditional regression reporting is also enabled. Custom reports which allow the sponsor to select ad packages to be analyzed and variables to consider are also enabled by reporting subroutine 41.

Use and operation of the preferred embodiment of the present invention is as follows. The following is for purposes of illustration and not limitation.

Stored locally on a user's PC is a cookie (technology by Digital Equipment Corp.) for identifying the user and his preferences. The user logs onto the Internet and enters the URL or Website address of program 31 which initializes main routine 39. The URL request is received by Web server 27 which in turn transmits (a) a log in advertisement screen view (i.e., from page objects 35a,b,c and ad package object 33b and (b) a request for a cookie that indicates whether this is a first time user. When no cookie is present, the main routine 39 transmits through server 27 the standard introductory screen view page (Home Page Fig. 4a).

Preferably the Home Page is an HTML (HyperText) document generated through the set of page objects 35a,b,c. The Home Page describes to new users, data available at the program 31 Website and allows existing users to log in.

The Home Page is formed of several graphical and text documents in the HTML and Java formats. For example, behind the "stock data" mean selection a Stock Exchange ticker flashes, and behind the "weather" option, a display of clouds swirling over San Francisco and then sunshine over Washington, D.C. is shown. A clip of a newly released movie plays behind the "Media Schedule" option, and sports scores scroll behind the "Sports" option. At the bottom of the screen view are log in fields and prompts.

10 For a new user, the Home Page effectively requests a user name and password. In response to the user provided data, main routine 39 immediately builds a cookie if possible. Included in the newly built cookie is a unique user identification code (preferably numeric), time and
15 date of log-in, and computer identification number to distinguish between home and work log-ins. Main routine 39/server 27 transmits the created cookie to the user's PC for storage and future use.

 Upon the new user selecting a displayed option (by
20 moving the cursor to the desired option and depressing/clicking the mouse button), a request is generated and sent to main routine 39/server 27. In response, program 31 obtains a screen view corresponding to the selection as generated through page objects 35a,b,c.
25 Main routine 39 transmits the screen view for display to the user.

 Program 31 also creates a new User Object 37a, User Computer Object 37b, User Interface Object 37c, User Session Object 37d, User Action History Object 37e and User
30 Viewing History Object 37f for the new user. User Object 37a records the user provided name and password used to create the cookie. User Session Object 37d records the log in time. User Action History Object 37e records the selection activity of the user. The User Viewing History
35 Object 37f also registers the open and leave times for the

initial log in advertisement screen view and notes what elements were displayed at that time. Also the Ad Package Object 33b responsible for the initial log in advertisement screen view records a "hit" by the new user.

5 Say for example, the new user selected (i.e., "clicked on") the "Stock Data" option from the Home Page. Program 31 responds by displaying a screen view featuring the exchange prices from various global exchanges. Main routine 39 also enables a banner to appear at the top of
10 the screen reading (for example) "Brought to you by Dean Witter". The user is able to select/click on this banner to effectively request more Dean Witter information from program 31. To accomplish this, the screen view contains a
15 the Internet, and program 31 would list the new user as the requester and the current screen view as the page from which he made the request.

 In the example, the exchange prices screen view also displays two options: "Quick quotation" and "Build a
20 Portfolio". Say, the user selects the former and enters a stock symbol. The screen view also prompts the user to a directory of symbols for use as needed. Near the lower portion of the screen view, there is displayed an area for the user to enter a new stock symbol and an option "button"
25 to effect addition of the corresponding company to the user's portfolio. Also displayed are other selection options as outlined in the Financial Pages formats of Appendix I. Further main routine 39 displays
advertisements in the screen view along the top, bottom
30 and/or sides of the screen as supported by the Page Objects 35a,b,c and Ad Package Objects 33b.

 In response to the user's selection and entered stock symbol, a long URL is generated and received by server 27. While no page currently exists at the requested address
35 (the URL), program 31 generates one in response.

Specifically, main routine 39 queries the Financial Page Object 35a,b,c (Appendix I) and requests the standard "quick quotation". The Page Objects 35a,b,c assemble the data, format it into a table and return it to Web Server

5 27. Sources of the data include on-line securities information from S & P Comstock and information stored by Page Data Objects 35b.

Simultaneously main routine 39 updates user Action History Object 37e to reflect the user's selection of the
10 "quick quotation" option. User Viewing History Object 37f notes that the user selected an option which had stock data present in blue with moving graphical elements.

Also main routine 39 selects and includes advertisements on the newly assembled page/screen view at
15 server 27. Main routine 39 accomplishes that by (i) determining, for each ad package object 33b, if the advertisements there are appropriate for the user and (ii) ranking all appropriate advertisements. To determine appropriateness, for each ad placed by a sponsor, the
20 sponsor weights demographic and psychographic criteria by importance and identifies which terms are required. The sponsor then gives a minimum total weight required for a user to see the ad series. The weighted criteria and indications of required terms and minimum total weight are
25 recorded in Ad Series Objects 33c (Fig. 5c).

To rank the advertisements determined to be appropriate, main routine 39 calculates

$$Rank = \left(\frac{\#hits_{purchased}}{\#hits_{achieved}} \right) \left(\frac{\#clickthrus_{purchased}}{\#clickthrus_{achieved}} \right) \frac{1}{t} cost(1-D)$$

where #hits and #clickthrus (i.e. number of hits and number of clickthroughs) purchased and achieved are stored
30 in Ad Package Objects 33b;

t is time remaining and equals end date time minus current date time (from Ad Package Objects 33b); and

D is a percentage discount of the cost of the ad package, if ad package is not completed i.e., number of purchased hits and clickthrus is not met.

In the preferred embodiment, program 31 automates weighing of criteria and in real time adjusts the intended audience profile of advertisements. To that end, program 31 tracks demographic and/or psychographic criteria of users who view ("hit") and/or select (i.e., "click through") advertisements. Then program 31 performs a traditional regression analysis of the tracked criteria, which results in null and alternative hypothesis testing to determine significance (T-test or X^2 test) of criteria/variables and squared correlation and squared correlation testing (R^2) to determine the weight of each criteria. See D. Freeman, R. Pisani and R. Purves, "Statistics", publishers W.W. Norton & Co., NY 1978 pages. 439-444; and Murray Spiegel, "Theory and Problems of Statistics," McGraw Hill, NY 1961 pages. 270-273. Program 31 uses that T-score to weight demographic and/or psychographic criteria and to effectively adjust the minimum total weight recorded in the Ad Series Object 33c (Fig. 5c). Program 31 continually performs the foregoing so as to maximize/ optimize success of advertisements displayed through server 27.

Referring back to the example, Server 27 transmits the generated screen view (i.e., "quick quotation Page" of user specified company with user appropriate ads) for display to the user. Next program 31 registers the user's activity with the User Interface Object 37c, User Session Object 37d, and User Viewing History Object 37f corresponding to that user. Also User Viewing History Object 37f records open and leave times for the first screen view ("Quick Quotation Page" of user specified company) and notes indications of what elements were displayed in that view to the user. Lastly, an additional "hit" is recorded in the

Ad Package Object 33b for the advertisements displayed to the user.

When the user requests to add the displayed stock to his portfolio, main routine 39 queries the Financial Page
5 Objects 35a,b,c as before and returns (transmits for display) a Stock Page (Appendix I) including an indication of the stock/company the user requested. The User Interface Object 37c of the user records the new portfolio information. Where the user provides/enters purchase price
10 to program 31, the displayed Stock Pages includes a tally of the user's gains and losses.

The user next selects the Weather category. In response the set of pertinent User Objects 37 register the user's activities (i.e., what he "clicked on") and record
15 indications of the screen view he was viewing as described before. Main routine 39 prompts the user for his zip code or the name of the city for which he wants weather information. In response to the user specified city, the User Object 37a for the user records an indication of that
20 city as a city of interest to the user. Further, main program 39 generates a Weather Page Object (Appendix I) through Page Objects 35a,b,c to display a weather report for the subject city. This is accomplished in a similar manner to that described above for a Stock Page, but the
25 source of data is one or more on-line services such as Weather Service Corp., AcuWeather and WSI for example. As described above, the User Interface Object 37c, User Session Object 37d, User Viewing History 37f, and Weather Page Object 35 record (a) open and leave times of the
30 weather screen view, (b) indications of what elements were displayed in that view, and (c) indications of what weather elements the user liked to view in his weather page, including national radar maps and 5-day forecasts.

Say the user now logs out. Program 31 notes the total
35 usage time and adds it to the user's usage log. When the

user subsequently logs on, Web Server 27 locates his cookie and main routine 39 queries the User Object 37a, User Computer Object 37b and User Interface Object 37c of the user to identify who he is and what his preferences are.

5 In turn, main routine 39 queries the Financial and Weather Page objects of the user and returns with data (screen views) of that last session. Using this data, program 31 automatically generates a Home Page tailored to the user, i.e., lists his portfolio and the weather in his last
10 specified city.

Also the Home Page displays an option to "click here for weather in other areas". Upon the user doing so and entering a home zip code, program 31 records that information in the User Action History Object 37e and User
15 Object 37a (home zip code field). Program 31 also generates a Weather Page/Screen View for the designated zip code area using the Page Objects 35a,b,c as described above.

Next, say the user selects and uses from the Home Page
20 (i) the Directory to look up a business partner in Detroit, and (ii) the Travel option to look up flight schedules. Screen views of telephone directory pages and travel options/tables are generated and displayed using the Page Objects 35 and Ad Package Objects 33b as described before.
25 That is, the Page Objects 35a,b,c (i) assemble the data from a pertinent agate source whose URL is passed in the initial request/option selection, (ii) format the data into tables, and (iii) return it to server 27. Meanwhile the Ad Objects 33b,c,d determine and return appropriate
30 advertisements to be integrated into the screen view/page. Moreover, the user's User Object 37a records Detroit as another city of interest, and the user's Directory Object 35 records his partner's telephone number. Finally, the user's User Interface Object 37c records his travel plans
35 (as inferred from the user's activity with the displayed

Travel Page/Screen View). User Interface Object 37c also sets a flag in program 31 to send the user an appropriate weather forecast the day before he travels.

Preferably, the sources of travel and directory data
5 which compile the subject data for use by program 31 administer satellite sources, or FM transmission source. One or more such services are employed as described above for the Stock Page ad, Weather page/screen views. Likewise, for Sports data, program 31 utilizes Sports Team
10 Analysis and Tracking Systems Inc., for example. For Classified, personals and Real Estate data, a collection of on-line services is employed. Alternatively, such data is entered into respective objects by a program administrator. Other data sources or a combination of said sources are
15 suitable.

After some time, i.e., several sessions with program 31, the user's User Interface Object 37c holds indications of his categories of interest, including specific items of interest in each category of information, and his
20 display/format preferences (colors, design, layout, etc.). Based on these recorded details, program 31 constantly and automatically tailors screen views (content and presentation) and advertisement selection (subject matter and presentation) for the user. As such, each time the
25 user logs on, program 31 features items that are more interesting and appealing to him (at least potentially so). When a user selects (i.e., "clicks on") an advertisement, the corresponding Ad Package Object 33b records a "click through". This affects the ranking and criteria weighing
30 calculations (discussed above) and further refines the terms of elements to be displayed/presented to a user. Thus the present invention provides a means and method for continually refining the target profile for advertisements.

The messages and warning/notices feature (Fig. 4b) of
35 program 31 enables users to request warnings for all data

categories. In the example, say the user requested that a warning be sent to him for changes in stock price of a certain company. In turn, the user Interface Object 37c records the user specified threshold (e.g., change in price
5 per share) and his E-mail address where he can be reached. When the stock data source issues a message that meets the threshold, the user's Warnings/Notices Object (Fig. 4b) sends an appropriate warning. His Warnings/Notices Object also records a "posting date" of the warning. Upon logging
10 onto his Internet mail, the user sees incoming mail (the warning generated and sent from program 31). Upon logging into program 31, the user is presented with the usual Home Page (tailored to that user) but with an indication of an outstanding warning. If the user selects the "warning"
15 option, program 31 employs a "link" (e.g., HyperText technology) to display that part of his stock portfolio which is pertinent to the warning. The Warnings/Notice Object in turn records the user's read date and time.

Similarly, user to user messages and/or notices (e.g.,
20 special events or new information available through program 31) are provided to a user. User Viewing History Objects 37f and other User Objects 37 may be searched by program administrators to find users to target notices, to depending on category of information and presentation
25 details. For example, if there is a new satellite picture of a hurricane off the Southeast coast, a program administrator could search the User Viewing History Objects 37f to find all users who have in the past viewed weather maps of the Southeast coast. The resulting indicated users
30 can then be sent a notice (via their respective Message/Warnings Object) saying "Check out hurricane X off the coast of Florida (This message brought to you by White Rain hairspray)", for example.

In the case of a sponsor-user logging on, he may
35 browse through the agate information (categories on the

Home Page) and advertisements as described above for an end user, but more importantly he is able to place ads and obtain performance reports. This is accomplished as follows. When a company (sponsor) opens an account with
5 the program administer, and the program administrator obtains sponsor information and forms a Corresponding Sponsor Object 33a. Advertising information and desired ads of the sponsor are recorded in respective objects. In particular, package information (number of click through
10 purchased, pricing and timing details) are recorded in Ad Package Object 33b. Demographic targets are entered in Ad Series Object 33c, and the ad content and information are stored in the Ad Objects 33d.

As discussed above, sponsors have the ability to place
15 ads according to demographic profile. To do so advertisers/sponsors complete a template (preferably in the Ad Series Objects 33c) which allows them to list certain criteria as required, and to weight other criteria by importance. To ensure ads are shown to the appropriate
20 users, the sponsor then selects a minimum total weight which a user's demographic/psychographic profile must achieve before the advertisement is shown to the user.

To ensure that sponsors achieve the optimal result from the ads they place, program 31 combines regression
25 analysis with the above weighing technique to achieve real time, automatic optimization as discussed previously. Under this auto-targeting system, an ad package is shown to general users. After a large number (e.g., 10,000) hits, program 31 runs a regression on a Subject Ad Package Object
30 33b to see what characteristics are important, and who (type of user profile) the ad appeals to most. Program 31 then automatically enters weighing information based on that regression to create a targeted system and runs the advertisement (ad Package Object 33b) again in front of
35 this new targeted group. Program 31 then runs a regression

every 10,000 hits, including a group of 500 general people as a control, and adjusts the weighing. This continues until the Ad Package is exhausted (i.e., the number of hits and click through are achieved).

5 Subsequently when the sponsor-user logs on, the Web server 27 (using cookies if available) identifies the sponsor-user with a user ID stored in the Sponsor Object 33a (Fig. 5a). Preferably, separate cookies are used to identify the user's personal log in apart from that of the
10 user as an agent of a sponsor-company. Also program 31 begins recording page information for the sponsor, and begins building a demographic and psychographic profile and usage history upon the sponsor-user entering the system.

 Using page Objects 35, program 31 displays an initial
15 screen view and prompts the user for a user name and password. The sponsor-user enters the Company's user name and their password. In response, main routine 39 checks the set of sponsor objects 33 and determines this to be the first "visit" since the sponsor placed a new ad. In turn
20 main routine 39 omits displaying the main menu (for sponsor-user) having options to place a new ad, check existing ads, or go to Home Page. Instead main routine 39 uses Page Objects 35 and displays the existing ads section which offers a "reporting" option. Upon the sponsor user
25 selecting the "reporting" option, main routine 39 lists in a screen view, the standard reports from the corresponding sponsor object 33a and an option to generate a custom report. In response to sponsor request for (i.e., selection of) a particular report, main routine 39 calls
30 reporting subroutine 41 which queries sponsor object 33a, Ad Package Object 33b Ad Series Objects 33c and Ads Objects 33d of the sponsor for details. For example, demographic elements, number of click through purchased, number achieved to date, number of hits and time remaining in an
35 advertisement are retrieved. Program 31 then checks the

usage logs and retrieves the profile of users who selected the sponsor's advertisement, using the User Objects 37a. The program 31 then generates a report using this data and uses standard statistical regression techniques to find
5 correlation between success and different demographic and/or usage information, and reports those as well. For example, a report comprises several defined elements, including overall success of the advertisement, breakdown by requested demographic elements, comparison of target
10 market with control group, number of click through requested versus number achieved to date, as well as the time remaining in an advertisement. Finally, program 31 completes a regression analysis using data stored in Ad Package Objects 33b and user objects 37, and suggests other
15 demographic groups which a sponsor might want to consider for a subsequent ad.

When displayed to the sponsor-user, reports may also have ads integrated therein, similar to pages/screen views displayed to users discussed previously. In the example,
20 say another company previously placed an ad targeting advertisers in the telecommunications industry. When the sponsor-user of the example logs in, the server 27 queries the corresponding sponsor object 33A for the companies SIC code and industry description. Recognizing a match,
25 program 31 places the other companies ad on the report screen view displayed to the sponsor-user. If the sponsor-user clicks on the ad, program 31 records the hit for the other company's advertisement, just as it would with any other end user. As such, program 31 tracks advertiser
30 usage as user information and develops demographic profiles for advertisers. This data is stored in the sponsor's users objects 33a (Fig. 5a). When the sponsor-user of the example decides to create a second package, the sponsor-user clicks on a "request and ad package" option and
35 completes a form detailing the package (number of

hits/click through requested, profiling, etc.). This time however the sponsor-user decides not to identify a target market for this ad. Impressed by the systems regression information, the sponsor-user decides instead to choose
5 "auto target" and allow program 31 to make the most efficient use of the new ad. Graphics of the new ad are "pasted" onto the form and submitted to server 27.

In response program 31 creates a new ad package object 33B and links it to the companies existing sponsor object
10 33A. From the data entered into the form, main routine 39 fills the corresponding ad package object 33B at series object 33C and ad object 33D. In turn program 31 displays a price quote for running the ad and the sponsor-user clicks on the "accept" button. This advertisement package
15 becomes available as soon as the sponsor-user as clicked on the "approved" button.

Subsequent login to program 31 completes a similar query to the one above, this time checking for both of the sponsors advertisements. Reporting subroutine 41 generates
20 a report listing the successes of the adds in two columns of a table. To accomplish this subroutine 41 uses sponsor Object 33a, Ad Package, Ad Series and Ad Objects 33b, 33c and 33d.

Say for example the sponsor-user decides to follow the
25 success of this new ad and creates a customized report to do so. To build the report the sponsor-user clicks on the "build custom report" option. Here subroutine 41 sends a report template to the sponsor-user. The sponsor-user selects the new ad series, which promoted a second
30 telephone line for example, and requested a variety of reporting elements. The sponsor-user then named the report "Susan 1". The completed report information is stored in the advertising reporting features object (Appendix IV). The name of this report will now appear on the report

options list of the sponsor when a sponsor-user subsequently logs on.

Program 31 automatically breaks down "auto-targeting" advertisements by time, to demonstrate the increasing
5 success of the ad. The system prepares any requested report with this time breakdown, such that a sponsor can see that the advertisement is becoming more and more successful the longer it ran.

In the preferred embodiment program 31 allows sponsors
10 to sort groups of users by demographics, to compare success rates of different user groups, advertisements, advertisement aspects, etc. The above described methods employed by subroutine 41 and program 31 provide graphical reports when appropriate and format report data in a manner
15 which is easily printable or transportable to presentations software. For example, in the preferred embodiment, program 31 makes all reports downloadable as an Adobe Acrobat file, other formats are suitable.

In order to achieve rapid and direct benefits from the
20 detailed reporting of program 31, program 31 allows the sponsor to enter new advertising contracts on line. If a sponsor recognizes that for example 25-35 year-old women tend to purchase frequently and respond to their still forest green colored advertisements most often, program 31
25 allows sponsors to place that type of ad in front of the subject target market segment during a reporting cycle. Thus, program 31 enables updating of the sponsor and ad objects 33 during a reporting cycle to accommodate the foregoing.

30 With respect to reporting, if the reports of program 31 show that customers respond to still advertisements more often than moving ones, bright colors more often than darker ones, graphical rather than text, large text rather than small, detailed text or square advertisements rather

than bar style ones, such is relayed to the sponsors/
advertisers.

To achieve the foregoing analysis, program 31
classifies aspects of each advertisement (see Ads Objects
5 33d, Fig. 5d). In a preferred embodiment, such
classification is automatically provided by a subroutine of
main routine 39. In turn this allows direct user behavior
analysis and psychographic profiling.

Equivalents

10 While the invention has been particularly shown and
described with reference to a preferred embodiment thereof,
it will be understood by those skilled in the art that
various changes in form and details may be made therein
without departing from the spirit and scope of the
15 invention as defined by the appended claims.

For example, the term "page" is used synonymously with
screen view.

In the foregoing discussed example, description of
generation of weather, stock, travel and directory pages is
20 provided. Page/screen view and supporting objects in other
categories of information are similarly generated.

The use of the term "program administer" singularly or
in plural is intended to refer to people who operate the
webb site of program 31, or the functional equivalent.

25 Further, other features such as the following may be
implemented in program 31 with respect to a respective
category of interest.

Stock & Business Data

Perhaps the greatest value added by this section is
30 portfolio accounting. By letting users enter stocks,
purchase price, commission, and number of shares, program
31 allows users to track their investments more
successfully. In addition to the portfolio, program 31 may

provide users an option to create a list of stocks that they follow (i.e. without any of the purchase information), simply so they can separate what they own from what they might buy. Both of these lists are downloadable into
5 Quicken, MS Money, or generic, tab-delineated spreadsheets.

As described above, however, program 31 allows users to be able to build portfolios, initially without registering, etc. Thus it is important to allow users to view detailed stock information for individual companies or
10 groups of companies without building a portfolio. An alternative is displaying in Financial Pages several blanks in which users can place company symbols, with check boxes for "Add these to my Portfolio" or "Add these to my 'Follow these'" list.

15 Company data will also be a major competitive advantage of program 31. Program 31 allows users to examine company data, compare several companies, or compare an SIC-code group, all with a few clicks. Example: Joe Cool wants to compare Apple, IBM, and Compaq. Joe could
20 enter these three into the same blanks used for stock data and, instead of stock data, select corporate information. Joe would receive from program 31 the balance sheets, income statements, etc., all in comparable columns. Joe could also switch to CAGR numbers (Compound Annual Growth
25 Rate... pre-processed by program 31) which allow more easy comparisons. Another click (i.e., command/selection) and Joe downloads these as a spreadsheet.

Both stock and company data can also be processed through a few calculations to produce standard business
30 ratios (i.e. price to earnings, etc.). Some of these can be pre-processed, some must be done real-time as they include stock price.

Alerts: For users who are comfortable giving out their e-mail address, the program 31 will send alerts at
35 preset stock prices for stocks in their portfolio list or

their "tract these" list. E-mail's will be sponsored and will correspond to the "New Items" section on a users personal page.

Weather

5 Program 31 uses the weather to determine, in part, where users live and where they are going. As such, program 31 enables users to see the weather in 1, 2 or 3 places they are or would like to be. Thus, another program feature allows users to view weather from more than one
10 place simultaneously.

 Program 31 typically gives users a quick glimpse at the 5 day forecast on the log-in page, with additional information about their area or others in map format, graphical images (e.g., a snowflake), and data. Weather
15 summaries may be available (short text blurbs) for larger regions, and possibly for individual cities.

 The greatest challenge here is how to locate the user. This can be done either with maps, zip codes/postal codes or by city (selectable lists which change by country).
20 Alternatively, it is desirable to have a clickable map which allows the user to get to their location within 2 clicks. Also offer a shortcut where the user can do it by postal code (and have a global database of postal codes). If postal codes duplicate, let the user select from the
25 possible options.

 Alerts: Users should be able to request alerts of bad or good (weekend plans) weather in their area via e-mail.

Sports Stats

 The sports section probably requires the most tailored
30 display capabilities. Users will be able to find game results (broken down by inning/quarter, etc.), league standings, individual player information (rbi, runs, at bats, etc.) and retrieve some set of these each time they

look at sports stats. This will be a natural lead-in to a rotisserie league and will support franchise sites (a good cross-link opportunity). The Web site will also include betting lines.

5 Initially, users will be welcomed to a site featuring a graphic that represents all of the sports program 31 covers and the previous day and today's results, and can select the sport that interests them most, or go immediately to a game of interest. If a sport is selected, 10 program 31 will present teams -- or players, if sport is an individuals sport -- (organized by standing in leagues, or as is otherwise appropriate by tradition), and allows users to click-through the league or a specific team. At this level (league, team or individual) and on all subsequent 15 levels, the system will allow the user to "track this team" or "track this player."

The next time a user logs-on to sports, a screen will compile the users information, showing all baseball teams (including win-loss record, league, league standing, next 20 game data and time), then all baseball players, etc.

Alerts: program 31 should alert users when their favorite teams are on television or coming to town.

Travel Information

Travel information will include various modes of 25 travel, their schedules (depart/arrival times, perhaps including layovers/transfers), and, when available, costs for tickets (by class) and, if possible, ticket availability information. This is a natural lead-in to on-line bookings. Preferable program 31 accommodates 30 additions of new carriers and perhaps a section on hotels.

Where possible, program 31 would give users the cost of a seat on that flight, and availability of seats in a specific category.

Alerts: Weather in towns they are traveling
to...airport closings (Weather objects can include this).

Telephone Directory

Users will be able to define a name (first, last),
5 address (city, state, zip), and find all public numbers
that match (limited to 100/display, but users can go
through more than 1 page of 100). Entire lists can be
downloaded into a tab-delimited file with name, address and
phone. Users can keep a directory of most called numbers
10 on server 27. Users will receive alerts if someone on
their list is no longer listed at the old address.

Visitors to server 27 will have the ability to add e-
mail information to their directory information. This will
be recorded so long as they maintain the same location. If
15 they move, they will have to re-enter their e-mail address.

Program 31 will also maintain a list of "where are
they now" numbers and addresses, i.e. a list of changed
addresses and telephone numbers which is searchable in a
similar fashion.

20 Media (TV & Film) Schedules

Users will be able to find television (network and
local) and film schedules by zip code. Users will also
have the capability to search for a specific show or film
(to see where and when it is playing) or national
25 network/satellite channel or theater (to see what they are
playing).

These lists will feature, in bold, the names of
films/shows appearing from any sponsor. Users will have
the option of tracking specific channels/themes on their
30 Main (Home) Page or on an adjunct Media-Page.

Classifieds & Personals

Users will have the ability to enter classified and personal advertisements on the network. Program 31 will use information provided to build demographic profiles when possible.

Entry should be through automatic forms and selectable lists as much as possible, to enable quick search and classification. Users should be able to browse through categories of items, or search them. Classifieds should be searchable by category, model, condition, price, seller's location, and keyword. Personals should be searchable by location, price, gender, orientation, race (if declared), age, and other categories.

To respond to a list, server 27 should allow responders to send a confidential message to a user or program 31, including his/her program identifies, e-mail address, or telephone number. When someone who posted an advertisement/personal next logs-in, his/her Home Page should contain a message reading "You have responses to your ad!..." This hotlink should lead users to a page containing all responses and allowing the user to send simple messages in reply.

Entries, if not renewed, should be removed after two weeks. Users should be able to renew and remove advertisements easily. Perhaps by entering a system-provided code?

Reports

Sponsor-user requested reports are generated at the time of request as described above. A real-time report (e.g., JAVA format) would show changes as they occurred during a requested report.

APPENDIX I

Types of Financial Pages

Format 1. Stock Page

Top banner

5 Portfolio

Table including user-selected and items listed below

Items included in a table

	Last Traded At...price
	Day/Time of last trade
10	\$ change
	% change
	volume
	# trades
	open
15	prev. close
	bid
	ask
	day low
	day high
20	52 week low
	52 week high
	EPS
	P/E
	Market Cap
25	Beta
	Dividend
	Dividend Ex Date
	5 year EPS growth
	Currency
30	Number of Shares purchased
	Change in individual share value
	Change in share lot value
	Total change in portfolio value
	Portfolio value graph

Message Window

List of quickly moving companies/alerts

List of Dorfman-like articles

Tracking List

5 (like portfolio, replacing purchase price with
"initial tracking value")

Indices (graphed, listed or value by daily change
pointer)

Dow Jones Industrial Average

10 NASDAQ

Other indices

Custom Ticker

Closing Banner

Format 2. Company Page

15 Top Banner

SIC Industry code and industry name

Stock information

Graph of change

20 Table compares these with 3-5 companies in similar SIC
group

Last traded at...price

Day/time of last trade

\$ change

% change

25 volume

trades

open

prev. close

bid

30 ask

day low

day high

52 week low

52 week high

EPS
P/E
Market Cap
Beta
5 Dividend
Divident Ex Date
5 year EPS growth
Currency
Per share purchase price
10 Number of shares purchased (if user holds in
portfolio)
Change in individual share value
Change in share lot value
Corporate information
15 Industry overview
Products
Officers and contact info for them
Historical balance sheet and income statement
Tables
20 Line to 10K/10Q
Window--News/Expert articles on that company?
Closing banner

Format 3. Expert Articles Page

Top banner
25 Article (may include tables/links to company data)
Stock graph for companies discussed
List of previous articles (with links as well, here
Bottom banner

Format 4. Expert Guide Page

- Top banner
- Survey pages
- Results page
- 5 Textual description of stock page
- Table of some stocks that they found to fit their
 description
- Description of "Show me Some" stock option (see
 below)
- 10 Disclaimer
- Bottom banner

Format 5. Show Me Some Page

- Top banner
- Text description of what page does
- 15 Table of stocks (generated from where the call for the
 page came from)
- Disclaimer
- Bottom banner

Types of Weather Pages

20 Format 1. National Weather Page

- Tob banner
- Maps
- National/Continent Weather Photos & Maps
- Satellite view
- 25 Temperature changes
- Precipitation map
- UV index
- Textual description of the fronts
- Real audio from a star reading his/her forecast
- 30 Bottom banner

Format 2. Regional Weather Page

- Regional (state-sized regions) photos & maps
 - Satellite view
 - Temperature changes
 - 5 Precipitation map
 - UV Index
 - 5-day graphical forecast
 - high temp
 - low temp
 - 10 precip (sunny, partly cloudy, partly sunny,
 mostly cloudy, cloudy, rain/snow)
 - Detailed 5 day forecast (table & text)
 - high temp
 - low temp\
 - 15 winds
 - wind chill
 - precip
 - UV index
 - textual description
 - 20 Weather warnings?
 - Bottom of the page ad

Types of Sports Pages

Format 1. Sports Page (General Sports page)

- Top of page ad
- 25 Game scores by league (user drill-down to game page)
 - 4 pros and 2 collegiate
- Standings in league
 - 4 pros and 2 collegiate
- Player standings by major category (for pros 4 and
- 30 college 2)
 - Baseball
 - Football
 - Hockey
 - Basketball

News window for each sport showing recent (e.g., 2-3 days worth) of news with like to Newspaper for more
Format 2. News Page (windows will be Java scrolling including new news where possible)

- 5 Top ad
 Major trades/signings
 Injuries
 Other news windows
 Bottom ad
- 10 Format 3. Team Page
 Top ad
 Team name
 Team logo (if permission granted)
 Roster
- 15 Player names
 Player numbers
 Player position
 Short stats list
 Bottom ad
- 20 Format 4. Team v. Team Page
 Top ad
 Table - 2 columns
 Team names & team logos (if permission for BOTH)
- 25 Team rosters, with players opposite one another
 Performance stats in competition
 Odds-makers bets on coming games
 Ticker with game scores for entire season
- 30 Bottom ad

- Format 6. Player v. Team Page
 Top advertisement
 Player name and team name
 Player stats against this team only (table)

Odds of various events in table

Bottom ad

Format 7. Player v. Player Page

Top advertisement

5 Table with two columns

Player names

Relevant stats in previous matches

Odds in table

Media Schedule Page

10 TV Table

Show

Channel

datetime start

datetime end

15 rating

rerun?

Film Table

Film name

Director

20 primary actors (3)

theater

times

length

rating

25 comedy/drama/action/documentary/musical

classic/new film

Theater/Opera/Symphony Table

Theater

Show title

30 Director

Travel Options Page (by City)

Advertisement (Top)

Table with travel options

	Transport type
	airline
	bus
	boat
5	train
	Schedule
	Department
	city
	time
10	Stops (could be multiple)
	city
	arrival time
	departure time
	Arrival
15	city
	time
	Reservation Information
	seats available
	cost/ticket
20	restrictions
	requirements
	passport?
	visa
	photo ID
25	number to call for reservation
	Table with room and board options in
	destination
	Hotels
	name
30	address
	price/night
	weekday
	weekend
	max # in room
35	bedding

king (number?)
queen (number?)
single (number?)
cot (number?)
5 television
cable TB
pool
a/c
number to call with reservation
10 Rental car options
Dealers
name
address
telephone
15 Car options (for days available)
make/model
price/day
End of page ad

Personals Ads Pages (result of search by categories)

20 Top of Page Ad
Table comprising search results
geographic
city
demographic
25 gender
age
income bracket
occupation
lifestyle
30 language
smoker
orientation
lifestyle (vegetarian)
race

drinker
marital status
music
weight
5 height
Ad text
End of page ad

Classifieds

Beginning of page ad
10 Response from search
Item name
Make
Model
Price
15 Year
Available date
Description
End of page ad

Real Estate Pages

20 1. Citywide Listings Page
Beginning of page ad
Table showing
address
price
25 dwelling type
square footage
price/sq.foot
End of page ad
2. Selected Listings Page
30 Top Ad
Table (includes only those listings selected by
the user)

	Table including
	address
	price
	square footage
5	price/sq.foot
	dwelling type
	eat-in-kitchen (EIK)?
	number of bedrooms
	number of baths
10	parking?
	number of off street
	number of garage
	yard size (if any)
	deck?
15	pool?
	construction type (brick, wood, etc.)
	heat type?
	central air?
	available date
20	Bottom ad

3. Individual Listings Page
Beginning of Page Ad
Table including

	address
25	price
	square footage
	price/sq. foot
	dwelling type
	eat-in-kitchen (EIK)?
30	number of bedrooms
	number of baths
	parking?
	number of off street
	number of garage

yard size (if any
deck?
pool?
construction type (brick, wood, etc.)
5 heat type
central air
available date
Textual Description
Contact information for house
10 Owner/agent name
telephone
E-mail/FOI messaging
Photo (if paid advertisement)
Floor plan (if paid advertisement)
15 Map of city with house marked (using 9 digit zip)
End of page ad

APPENDIX II

City Pages

	Travel Options from User's Hometown
	See travel options section above
5	Media/Cultural Event Schedules in Table
	Name of event/show
	location/channel
	datetime begins
	datetime ends
10	ticket cost (if any)
	Corporate Information for Local Companies (Table)
	Name
	Industry
	Revenues
15	Contact Info
	street address
	city
	state
	zip
20	telephone
	fax
	E-mail
	Weather
	graphical 5-day forecast for city
25	Directory (numbers in city user has accessed before)
	Name
	Address
	street
	city
30	state
	zip
	Telephone
	fax
	E-mail
35	Notification of changes in address list

User Page Preferences - for pages

User Page Element Preferences - format

Categories for each category

structured data

5 preformatted data packages

value-added analysis tolls and data

Prepared analytical views for user selected data.

Includes customized info...Here's my data and

here are some forms of analysis. Options range

10 from numeric to "thumbs-up, thumbs down" by a
specialist

What info do you want

Expert's ratings (for every

stock...based on designated user goals

15 and profiles)...

trip next year

college

retirement

what teams do you like?

20 Sports

e.g.,

by Dan Deardorf

by Stan Savrin

by XYZ

APPENDIX III

User Customized Categories

Financial Information

Data from two primary sources

5	S&P Comstock from variety of exchanges.
	Note some of these items may not be available.
	last traded at
	day/time of last trade
10	\$ change
	% change
	volume
	# trades
	open
15	prev. close
	bid
	ask
	day low
	day high
20	52 week low
	52 week high
	EPS
	P/E
	Market cap
25	beta
	dividend - ex date
	5 year EPS growth
	currency
	Ticker-company translator
30	EDGAR--available now but format is muddy
	revenues
	earnings
	product descriptions
	Preformatted data analysis for user profiles
35	open

open
bid
ask
last
5 \$ change
 52 wk highh
 52 wk low
 p/e
Portfolio view - user selected stocks
10 current information
 tabular (selected attributes)
 total value if user includes # shares
 changed value if user includes purchase price
 allow multiple purchases of some stock for
15 several different purchases by doing Quicken-like
 pulldown entry for several lots of same stock
 user formatted output
value-added analysis tools and data
 Prepared analytical views for user selected data.
20 Includes customized info...here's my data and here are
 some forms of analysis. Options range from numeric to
 "Thumbs-up, Thumbs down" by the specialist Dr. Know-
 it-all.
 What info do you want
25 e.g. Dorfman's ratings (for every
 stock...based on designated user goals and
 profiles) ...
 trip next year
 college
30 retirement
 what items do you like?
 e.g. Beardstown ladies
 what businesses are doing well in
 neighborhoods? What shoes are your
35 kids wearing?

Prepared profiles to assist users in selecting data.
I give you my Easy walk-through analysis and you give
me the data that fits it (I want college stocks and
you suggest them).

5 Like TurboTax software...
 ADD info from here to user profile
Direct User Selection of categories and display (like
TERMS)

Sports

10 Sports stats
 initially for big 4 professional leagues
 eventually adding college and golf, tennis, auto
 and horse racing
preformatted data packages include
15 daily report on selected team/player stats
value-added analysis tools and data
 Prepared analytical views by experts. FOI will
 try to get a sports personality from major cities
 nationwide as well as a few national
20 sportscasters. We will allow folks to follow
 those they find compelling.

What info do you want

 Sports personality ratings (for every
 team...based on what Terry believes is important,
25 for the teams the user likes)...

 e.g. by Dan Deardorf

 by Stan Savrin

 e.g. by Terry Bradshaw

 includes the categories important to
30 the analyst and their thumbs-up or
 thumbs down stat

 overall rating by Dan defensively.

Prepared profiles to assist users in selecting data.
I give you my easy walk-through analysis and you give

me the data that fits it (I want football teams and a simple comparison...you suggest them).

5 walks through important stats and what they
show allows user to select teams, prepares
standard profiles for selected teams, incl.
basic analysis

Direct user selection of categories and display (like TERMS)

10 user chooses categories
user chooses teams
FOI builds grids

Warnings:

15 when team is on TV channel (allow user to select
networks that are available) when team is coming
to town when major news events (trades, etc.)
occur

Weather

20 data from single provider
includes city-by-city and airport reports and
projections
includes zip-code locator for cities
includes graphical files prepared by data
supplier

locator map

25 allows users to click to locate users
increasingly accurate maps
global in scope
result in location that links to local
weather data.

30 description by expert(s) - lets user view how Joe
Denardo or Willard Scott views the weather and why.
Prepared profiles to assist users in selecting data.
Very simple for weather: helps users to select their

area and what weather items interest them. Emphasizes ability to select "weather warnings" from the system.

Direct User Selection of categories & display (like TERMS)
Warnings/Notices

5 Severe weather in their area or other areas they
 monitor

 Good weather coming in potential vacation spots

Travel

 data--hopefully from one provider

10 centered on from: and to: cities

 include schedules, pricing and seating class

 availability from airlines, buses and trains

 preformatted data packages

 allow user to simply select two cities

15 (airports?) date and time (optional) of travel,
 and view their travel options.

 sortable by time, cost, seating available

 value-added analysis tools and data

 Featured travel packages prepared by travel
20 experts

 Prepared profiles to assist users in selecting
 data...

 Easy walk-through analysis and program 3 gives
 the data that fits

25 What city are you in?

 Where do you want to go?

 When do you want to travel?

 What's your greatest priority?

 cost

30 convenience

 non-stop

 ADD this information to user profile

 warnings/notices

discounts fares to cities the user has
examined
poor travel conditions to cities the user
has examined
5 fares falling below a certain point to
cities the user has selected

Telephone

Includes telephone, address and allows user to
add E-mail and URL
10 value-added analysis tolls and data to a user
allows user to send E-mail (when listed)
directly to user
allows user to build list of regularly used
numbers and addresses (automatically
15 generated from selected data)
prepared profiles to assist users in
selecting data
helps users to limit searches so they will
be most effective
20 ADDs info from here to user profile
quick look-up feature (just give last name,
first initial and state)
detailed searching: allows all users to
search by name, address, E-mail, etc.
25 warnings:
when information changes that is listed
in user listed

Personals

data entered by users
30 data entry uses preformatted forms with many optional
categories
value added analysis tools and data
Prepared analytical views for user entered
profiles from Dr. Ruth to Oprah.

What kind of a person are you? What do you want?

Oprah's ratings (based on which items Oprah thinks are important)

5

age
smoker/non
cook?

Prepared profiles to assist users in entering data and giving importance to their data items.

10

Eash walk-through analysis...

Helps users to input their info
(automatically lists them on network if they like, allowing anonymous entries and replies)

15

completes search
helps user send message

Direct user selection through browsing or complex searching

Warnings/notices

20

responses to ads placed
"most interesting singles ad of the week:
Oprah's latest recommendation for you...

Classifieds

data entered by users

25

data entry uses preformatted forms with many optional categories (depend on product selected)

product

cost

size

30

weight

doors (2 or 4)

horsepower

cylinders

negotiable?

manufacturer
age/year of purchase
warranty?
location of item
5 text description
value-added analysis tools and data
Prepared analytical views for user entered
profiles, from CarTalk to other industry experts.
What do you want? What are your priorities?
10 Car Talk ratings on makes, models, etc.
for autos, and others on other
categories:
CONSUMER REPORTS?
price
15 year
make/model
Prepared easy walk-through category selection...
Helps users to select items they want,
identifying and sorting by their most critical
20 categories
completes search
helps user send message
Direct user selection through browsing or complex
searching
25 Warnings/Notices
responses to ads placed
bidding/counter bidding process

APPENDIX IV

Advertiser Reporting Features

Web-based reporting includes advertisements targeting the advertisers

5 Please contact me...I want to advertise on server 27
Place/delete ad packages (for existing accounts only)
Reporting

Allows drill-down through to individual user level

10 Types of Reports

Overview of program 31 advertising

Broken-down by packages

Shows

15 HTs purchased and achieved
CTs purchased and achieved
Purchases (if applicable)
Cost of package
Date specified by package
Can click through to detailed
20 package reports

Detailed Package Reports (for individual packages)

shows ads included in package
media (visible/playable here)
25 HTs purchased and achieved
CTs purchased and achieved
purchases (if applicable)
cost of package
demographic profiling requested
30 demographic breakdown of success v. control
group

Demographic Response Rates

includes all packages or selected ones
compares (if several) ad success by demographic
35 groups selected as important to advertiser

Automatically runs regression in background and suggests other demographic characteristics that are important factors in CTs and/or purchases

5 Allows advertiser to auto-generate a complete regression report for a specific package, subset of packages or all packages.

Psychographic Profiling

Includes all packages or selected ones

10 Compares (if several) ad success by psychographic groups selected as important to advertiser

15 Automatically runs regression in background and suggests other demographic characteristics that are important factors in CTs and/or purchases

 Allows advertiser to auto-generate a complete regression report for a specific package, subset of packages or all packages.

20 Mapping (U.S. or world locations)

Generates map to show FOI user density v. their CT or purchase density

Allows scalability

Regression (demographics)

25 Custom reports

Very like TERMS

Customer selects packages to analyze

Customer selects variables to consider

System generates reports

30 Custom reports can be saved on FOI